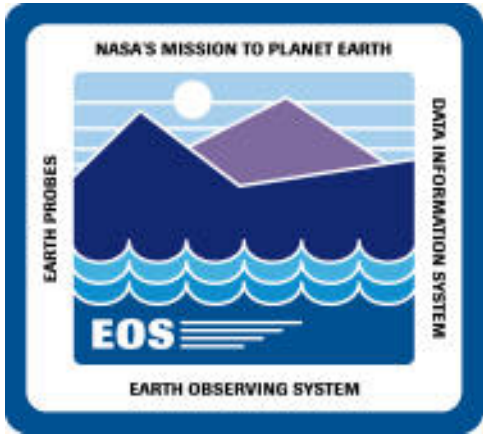

Production Rules

Michael Bopf

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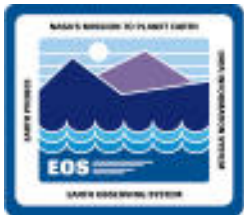
15 April 1996

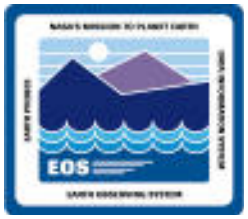
PDPS Roadmap



Special Topic: Production Rules

Capture PGE Profile at **SSI&T**
Describe Production Goals through **Production Requests**
Accept **On-demand** Production Requests
Accept Resource Reservations and Create **Resource Plans**
Planning Production Controls - Create and Activate **Production Plans**
Coordinate Production from Data Arrival with **Subscription** Notifications
Handle L0 **Data Preparation**
Special Topic: Production Subsetting
Realtime **Production** Controls and PGE Execution Monitoring
Special Topic: PGE Exit Handling
Quality Assurance Check Output Products
Special Topic: PDPS Database
Special Topic: Ancillary Data Pre-Processing

Overview



Background

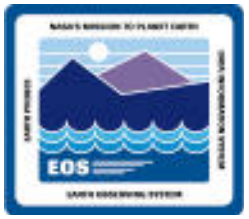
Approach

Rule Descriptions

Design

Summary

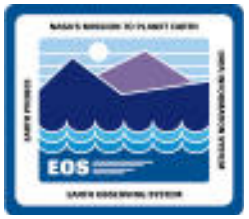
Background



Need to provide a template for Instrument Teams to describe the relationship(s) between the PGEs and the input and output data. These specifications cover a variety of issues such as:

- **Basic Temporal specification**
- **Alternate Inputs**
- **Mode-based PGE activation**
- **Metadata-based PGE activation**
- **Intermittent execution**
- **Special Level 0 processing needs**
- **Tiling**

Approach



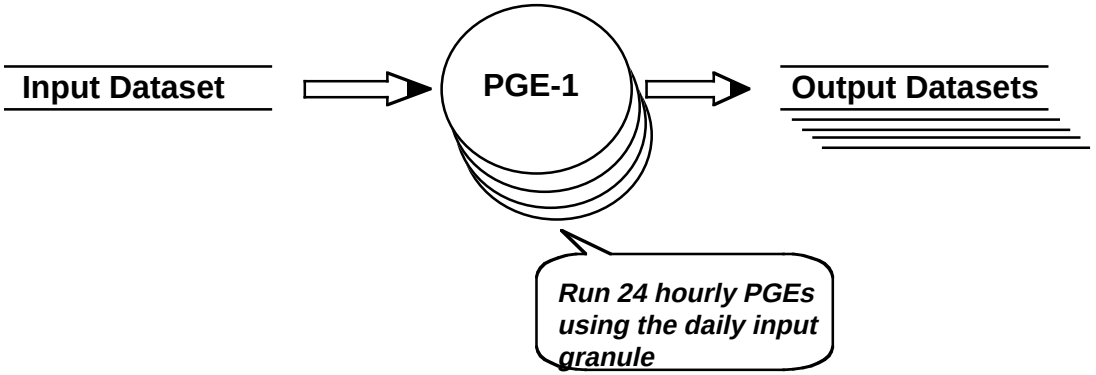
Iterative approach:

- **Solicited feedback from Instrument Teams**
  - **e-mailed preliminary memo; received comments**
- **Published Draft White Paper**
- **Held Telecon with ITs on 5 Feb 96**
  - **received a lot of feedback which was incorporated into design**
- **Published revised White Paper (445-WP-001-002)**

Basic Temporal

Problem:

Need to be able to specify temporal range of inputs and/or outputs.



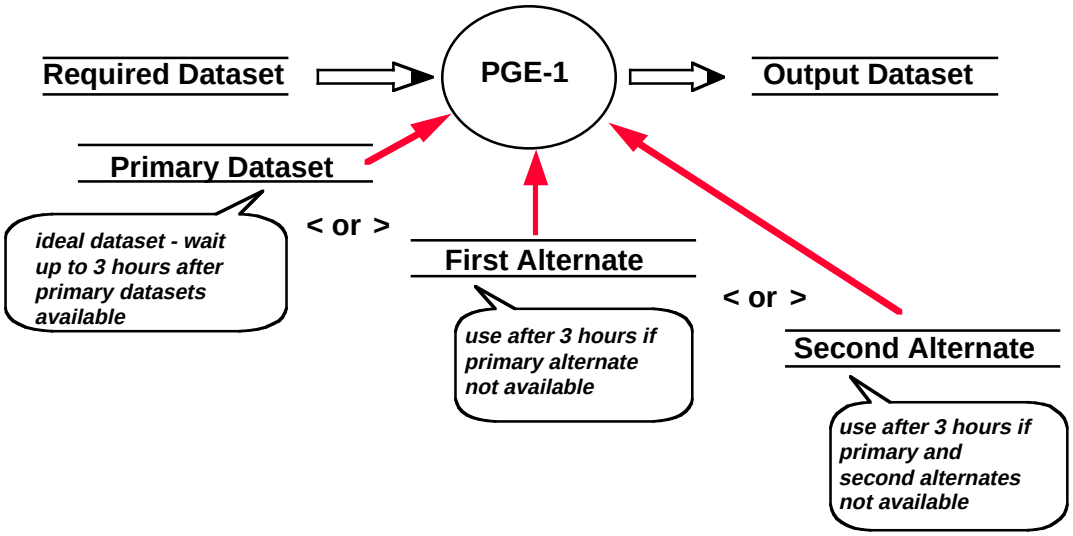
Implemented in following object models:

- **PGE Profile**
- **Production Request**
- **Subscription Manager**

Alternate Inputs

Problem:

Need to be able to run PGEs with different inputs based on availability or quality of various alternate input data sets.



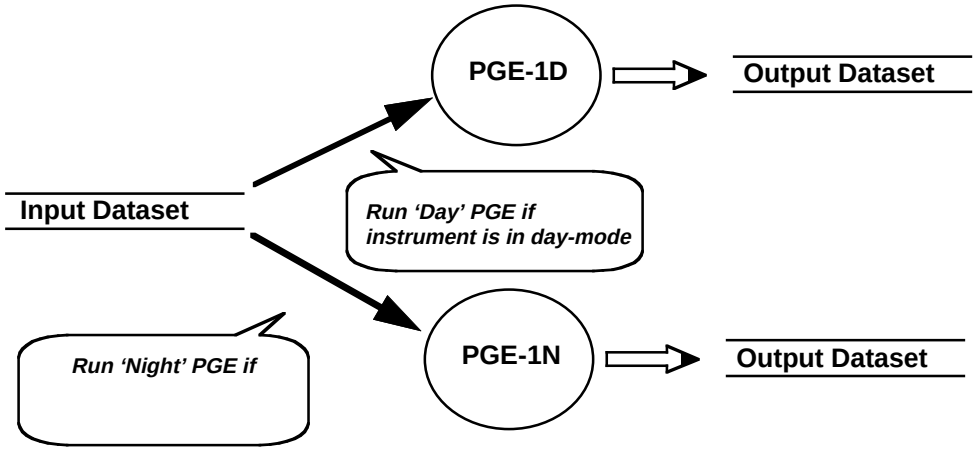
Implemented in following object models:

- **PGE Profile**
- **Production Request**
- **Subscription Manager**

Mode-based PGE Activation

Problem:

Need to be able to run different PGEs depending on instrument mode.



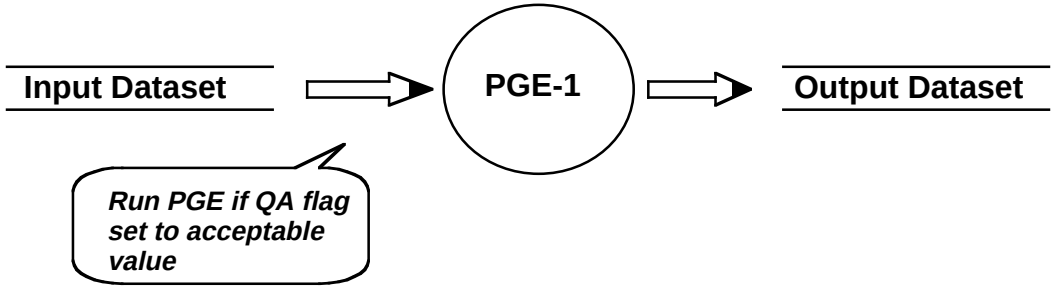
Implemented in following object models:

- **PGE Profile**
- **Production Request**
- **Subscription Manager**
- **Production Planning**

Metadata-based PGE Activation

Problem:

Need to be able use metadata of input data set to determine whether a given PGE is to be run.



Implemented in following object models:

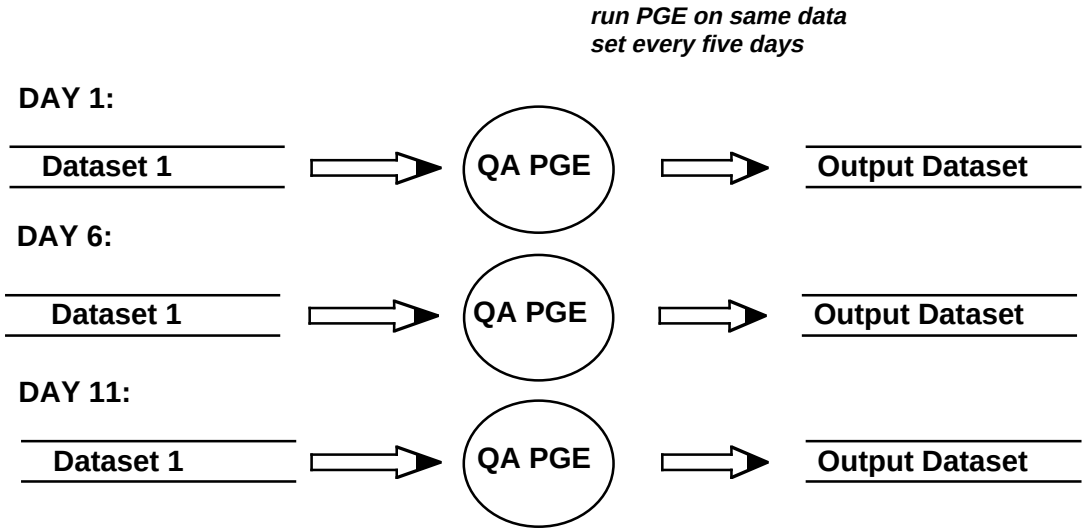
- **PGE Profile**
- **Subscription Manager**
- **Execution Manager**

Intermittent Execution

Problem:

Need to be able to run a PGE every Nth time it is able to be run.

Note this is different than the case of running a monthly average once every month (which is covered by the basic temporal rule)



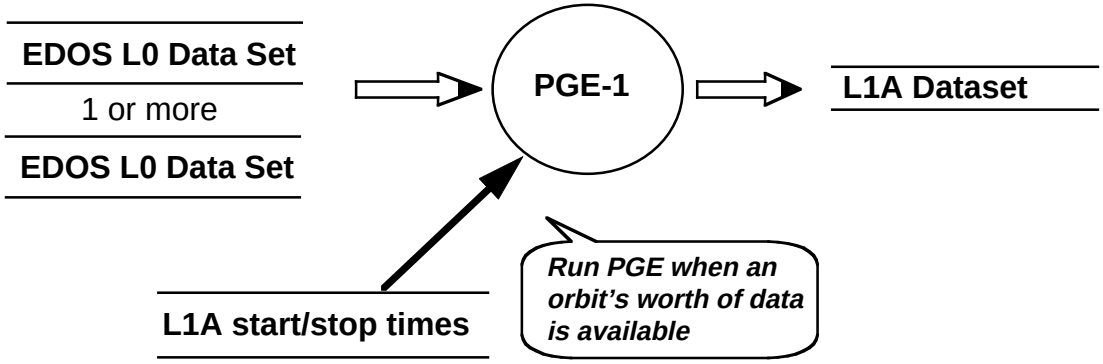
Implemented in following object models:

- **Production Request**

Special Level 0 Processing Needs

Problem:

Need to be able to identify and stage proper input Level 0 data to produce Instrument Team defined Level 1A granules.



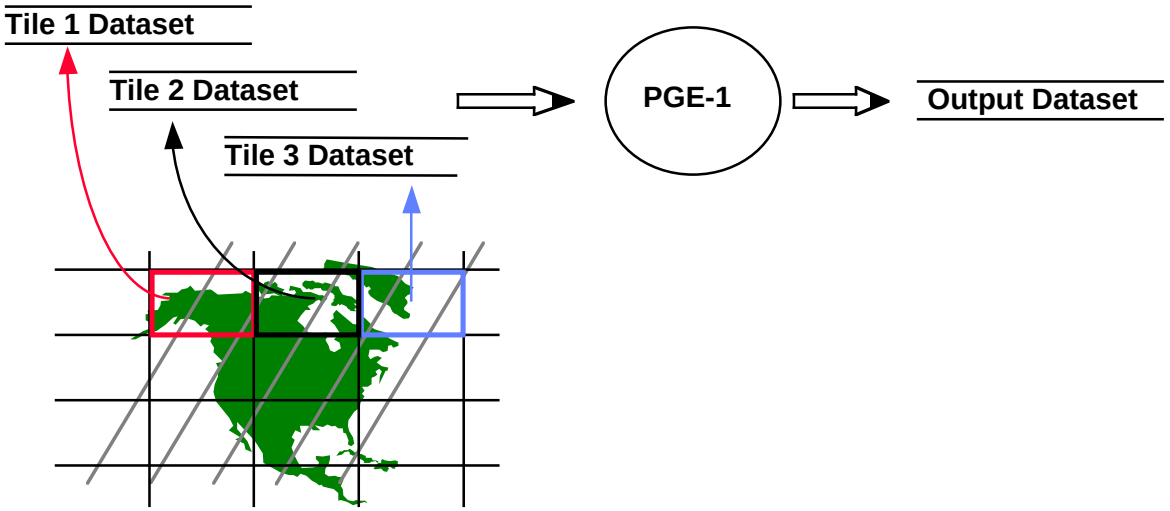
Implemented in following object models:

- **PGE Profile**
- **Production Request**
- **Subscription Manager**

Tiling

Problem:

Need to be able to identify and stage proper input data to produce Instrument Team defined tiles.



Implemented in following object models:

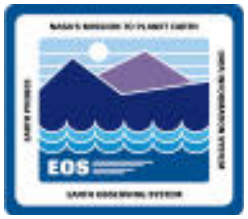
- **PGE Profile**
- **Production Request**
- **Subscription Manager**

Design

Support for production rules can be seen in the following CSCs and design primitives:

Production Rule	CSCs	Objects/Attributes
Basic Temporal	PGE Registration, Production Request Editor, Subscription Manager	PlGranule, PlRoutineArrival
Alternate inputs	PGE Registration, Production Request Editor, Subscription Manager	PlAlternateNB, PlAlternateDataGranuleNB classes
Mode-based PGE activation	PGE Registration, Production Request Editor, Subscription Manager, Production Planning Workbench	PlInstrumentModes, PlInstModeRecords, PlPGECollection, PlDPRCollection classes
Metadata-based PGE activation	PGE Registration, Subscription Manager, Execution Manager	PlMetaDataChecks, PlDefaultMetaDataChecks classes
Intermittent execution	Production Request Editor	myNumDPRsToKeep and myNumDPRsToSkip attributes of the PlProductionRequestB class
L0 Processing	PGE Registration, Production Request Editor, Subscription Manager	PlOrbitScheduledNB, PlOrbitModelNB classes
Tiling	PGE Registration, Production Request Editor, Subscription Manager	PlTileScheduledNB, PlCluster, PlTile classes

Summary



- **Production Rules provide a generic mechanism to specify the input/output and activation relationships**
- **Production Rules described in white paper have been incorporated into design (305-CD-026-002)**
- **Will demonstrate entry of production rules at GUI workshop [Oct 96]**